

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

DYNAENERGETICS EUROPE GMBH, and  
DYNAENERGETICS US, INC.,

Plaintiffs,

v.

HORIZONTAL WIRELINE SERVICES, LLC,  
and ALLIED WIRELINE SERVICES, LLC,

Defendant.

Civil Action No: 6:21-cv-00349-ADA

**DYNAENERGETICS EUROPE GMBH AND DYNAENERGETICS US, INC.'S  
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

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Pursuant to the Proposed Scheduling Order (Dkt. 20) and the Standing Order Governing Patent Cases (Dkt. 29), Plaintiffs DynaEnergetics Europe GmbH and DynaEnergetics US, Inc. (collectively, “DynaEnergetics”) submit this Responsive Claim Construction Brief in response to Defendant Allied Wireline Services, LLC and Horizontal Wireline Services, LLC’s (collectively, “Defendants” or “Horizontal”) Opening Claim Construction Brief.

## **I. STATEMENT OF THE ISSUES AND SUMMARY OF THE ARGUMENT**

Before the Court are eight terms from U.S. Patent No. 10,844,697 (the “’697 Patent”) that have been proposed for construction (one by DynaEnergetics, seven by Horizontal). Claim construction in this matter is straightforward. With one exception, each of the terms listed above has a well-understood meaning in the art which the jury will readily understand. As a result, most terms of the ’697 Patent do not require construction. Nevertheless, Horizontal and the other Defendants in the related ’697 Patent cases<sup>1</sup> have each identified between four and seven terms for construction, and they cannot agree on whether certain terms need construction; nor can they agree on what the majority of the terms mean. Rather, each Defendant appears to have approached claim construction largely with the structure and operation of their own accused systems in mind, purposefully choosing purported synonyms, incorporating unnecessary or unsupported verbiage, or rewriting the plain language of the claims. Defendants’ tailored approaches forces DynaEnergetics to submit multiple claim construction briefs for the same patent, including five separate briefs in this District alone. To simplify this process, DynaEnergetics attaches Exhibit A, a chart of all proffered constructions as proposed by each WDTX Defendant.

However, each Defendant—including Horizontal—has followed a similar claim

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<sup>1</sup> *DynaEnergetics Europe GmbH v. G&H Diversified Mfg., LP*, No. 6:20-cv-01110-ADA (W.D. Tex.); *DynaEnergetics Europe GmbH v. GR Energy Services Operating GP LLC*, No. 6:21-cv-00085-ADA (W.D. Tex.); *DynaEnergetics Europe GmbH v. NexTier Oilfield Sols., Inc.*, No. 6:21-cv-01201-ADA (W.D. Tex.); *DynaEnergetics Europe GmbH v. PerfX Wireline Services, LLC*, No. 6:21-cv-00371-ADA (W.D. Tex.).

construction strategy to narrow the claims of the '697 Patent by proposing constructions that violate well-established claim construction principles and rewriting the claims in a way that introduces ambiguity or imports limitations from the specification. Horizontal's proposed constructions disregard the express claim language and the intrinsic record—ostensibly to manufacture otherwise non-existent non-infringement positions. DynaEnergetics respectfully requests that the Court reject Horizontal's proposed constructions and adopt the plain and ordinary meaning of each of these seven disputed terms.

With respect to the disputed term “connected to,” when read in the context of the '697 Patent, a person of ordinary skill in the art would understand that the plain and ordinary meaning of the term “connected to” requires that the connected elements be “joined or coupled in a manner that resists separation and not merely by physical contact.” DynaEnergetics respectfully requests that, should the Court find a construction is necessary, the Court adopt this construction.

## **II. DISPUTED TERMS**

As set forth in Exhibit A, a total of nine terms of the '697 Patent are in dispute between all of the WDTX Defendants. However, Horizontal specifically has proposed seven terms for construction, and each of those terms is discussed in turn below. DynaEnergetics respectfully submits that all but one of the terms at issue do not require construction.

### **A. “tandem seal adapter” (asserted claims 1, 8, and 9)**

DynaEnergetics' Construction	Horizontal's Construction
No construction needed; plain and ordinary meaning.	“an adapter configured to form a seal between two gun carriers or tools that are directly attached to each other”

In contrast to Horizontal's unduly narrow and confusing proposed construction, DynaEnergetics' position is that no construction is necessary for “tandem seal adapter.” The words of the '697 Patent claims themselves clearly define the scope of the “tandem seal adapter,” and

therefore a person of ordinary skill in the art (“POSITA”) would readily understand the term without further construction. *See Ex. B, Declaration of John Rodgers (“Rodgers Decl.”) ¶¶ 57-60; see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.”). Because the tandem seal adapter is described in plain and clear terms, a jury will have no problem understanding the scope of what a “tandem seal adapter” comprises without a formal construction. Claim 1 describes the “tandem seal adapter” as “having a first end, a second end and a bore that extends from the first end to the second end and entirely through the tandem seal adapter.” ’697 Patent at 11:21-23. Claim 1 goes on to require that the tandem seal adapter is connected to the outer gun carrier (*id.* at 11:27-29) and that a pressure bulkhead is “sealingly received in the bore of the tandem seal adapter.” *Id.* at 11:30-33. Claim 1 also recites that the “tandem seal adapter and the pressure bulkhead are configured to provide a seal between the detonator and an environment on the second end of the tandem seal adapter.” *Id.* at 11:44-47. There is no ambiguity in this term warranting a formal construction by this Court, and “tandem seal adapter” need not be a term of art in the industry of perforating guns to carry its plain and ordinary meaning. *See Pixion, Inc. v. Citrix Sys., Inc.*, No. C 09–03496 SI, 2011 WL 5191832, at \*11 (N.D. Cal. Nov. 1, 2011).

Horizontal’s effort to seek a construction of the term “tandem seal adapter” is not about the “tandem seal adapter” at all. Specifically, and without any proper support for doing so, Horizontal seeks to define the claimed “tandem seal adapter” component as requiring the presence of at least two perforation guns or tools ***that are directly attached to each other***. In other words, Horizontal’s proposed construction for “tandem seal adapter” improperly rewrites the claims to include requirements for entirely separate components in the electrical connection assembly: the

“two gun carriers or tools” that need to be “directly attached to each other.” Horizontal cites to Dr. Nathan Meehan’s opinion to support its argument that the tandem seal adapter “is an *internal* adapter between (1) two guns carriers that are *directly connected to one another* or (2) between a gun carrier and another tool that are *directly connected to each other*,” citing to the embodiments shown in FIGS. 19 and 32 of the ’697 Patent. Dkt. 31-2, Meehan Decl. ¶ 46 (emphasis added). The Federal Circuit has expressly rejected the contention that a patent should be construed as being limited to only its disclosed embodiments. *Phillips*, 415 F.3d at 1323; *see also Cont'l Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 648 (2019) (“[W]e conclude that disclosing only the [preferred] embodiment, without more, does not result in a clear disavowal of claim scope.”). Tellingly, Horizontal’s proposed construction improperly incorporates *only select* unclaimed features—likely the features on which Horizontal intends to rely for its non-infringement positions—from the non-limiting embodiments shown in the figures. Horizontal’s proposed construction does not include unclaimed features that are unquestionably present in *both* the figures *and* the accused product; for example, Horizontal’s proposed construction is not that a tandem seal adapter is “configured to form a seal between *internal components* of two gun carriers/tools,” despite that description in the specification with respect to a disclosed embodiment. ’697 Patent at 7:58-63; Rodgers Decl. ¶¶ 65-67. The plain language of claim 1 expressly defines the structure (first end, second end, bore) and configuration (connected to the first outer gun carrier, configured to provide a seal between the first detonator and an environment on the second end) of the claimed tandem seal adapter. The claimed structure and configuration are shown in the figures. Horizontal improperly aims to modify the overall scope of the claimed invention—the claimed electrical connection assembly for establishing an electrical connection in a tool string—through its proposed construction of this term.

Neither Dr. Meehan nor Horizontal has identified any language in the intrinsic record that limit the tandem seal adapter to merely an “internal component”—because no such disavowal of claim scope exists. The ’697 Patent explicitly states that FIGS. 19, 25, 26 and 32 merely illustrate *embodiments* of the claimed invention (*see, e.g.*, ’697 Patent at 4:43-46, 7:58, 8:31), and even though those embodiments illustrate the claimed tandem seal adapter as an internal component, Furthermore, even the plain language of the patent itself expressly teaches a POSITA that the claimed invention is not limited to the embodiments, stating that “[n]umerous modifications and variations could be made to the [] embodiments without departing from the scope of the FIGS. and claims, as apparent to a person skilled in the art.” ’697 Patent at 10:30-33. Thus, a POSITA is explicitly taught by the patent that there are other variations to the identified embodiments, such as alternative methods to connect the tandem seal adapter to the outer gun carrier, which would include well-known methods to connect tools like using external threading.

Further, there is simply no evidence in the intrinsic record to support Horizontal’s construction of the tandem seal adapter to require an additional limitation that the separate “two gun carriers or tools” sealed by the tandem seal adapter must be “directly attached to each other.” Nothing in the claims, specification, or the prosecution history of the ’697 Patent supports a construction where the tandem seal adapter requires the completely separate “gun carriers or tools” to be “directly attached to each other.” Horizontal is simply attempting to rewrite the claims to insert terms and limitations more to its liking, but claim construction is not an exercise in inserting words and limitations that an accused infringer may wish the inventors had used in place of the words they actually did.

Because there is no support in the intrinsic record for Horizontal’s proposed construction, Horizontal fabricates a complicated and futile distinction between a tandem seal adapter and a

“sub”—a term that appears nowhere in Horizontal’s proposed construction—to provide extrinsic evidence that supports their proposed construction and to establish a non-infringement position. Horizontal cannot override the plain language of the claims with extrinsic evidence. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (stating “it is improper to rely on extrinsic evidence” when “an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term”). Indeed, Horizontal’s description of a “sub” does not exclude a tandem seal adapter, as claimed, with first and second ends connected to respective outer gun carriers and a bore for receiving a pressure bulkhead, for forming a seal. *See* Rodgers Decl. ¶ 62-64.

Even though Horizontal repeatedly points to DynaEnergetics’ statement that “[t]he term ‘tandem seal adapter’ is not a common or accepted industry term” (Dkt. 31 at 1), this statement was made about the term as used in a different patent, U.S. Patent No. 10,472,938 (the “’938 Patent”). Notably, Horizontal ignores the actual claim construction proposed for “tandem seal adapter” in the ’938 Patent PGR<sup>2</sup> by DynaEnergetics, and instead proposes a more self-serving construction for the tandem seal adapter in the ’697 Patent. DynaEnergetics has explained to the Patent Office that even though the ’938 Patent is in the same family as the ’697 Patent, the plain language of the claims in the ’697 Patent expressly define the claimed “tandem seal adapter,” while the ’938 Patent claims do not, and therefore the proposed construction of a tandem seal adapter is unnecessary for the ’697 Patent. *See* Rodgers Decl. ¶ 57-60. Because the claim language itself comprehensively defines for a POSITA the full scope of a tandem seal adapter consistent with the ’697 Patent description, no construction is needed.

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<sup>2</sup> PGR2020-00080 was not instituted against the ’938 Patent. *Hunting Titan, Inc. v. DynaEnergetics Europe GmbH*, PGR2020-00080, Paper 7 (PTAB Feb. 12, 2021).

**B. “connected to” (asserted claim 1 and 9)**

DynaEnergetics’ Construction	Horizontal’s Construction
Plain and ordinary meaning, which is “joined or coupled to, in a manner that resists separation and not merely by physical contact”	Plain and ordinary meaning; no construction necessary

Though claims are given their ordinary and customary meaning, they must be construed “as understood by a [POSITA] . . . when read in the context of the specification and prosecution history.” *Laryngeal Mask Co. v. Ambu A/S*, 618 F.3d 1367, 1370 (Fed. Cir. 2010). Here, a POSITA would understand that, consistent with the industry usage of the term, the term “connected to” as used in the claims of the ’697 Patent means “joined or coupled in a manner that resists separation and not merely by physical contact.” *See Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1366-67 (Fed. Cir. 2005) (“Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.”).

While “connected to” may appear readily understandable, it is important in the context of the ’697 Patent claims to expressly define this term as requiring a secure coupling or joining together. The claimed connection can be achieved by threading and/or o-rings to provide a firm and secure connection between the tandem seal adapter and the outer gun carrier. *See* Rodgers Decl. ¶¶ 71-72. In contrast, a mere touching or fitting together or physical contact alone would not be sufficient for two components to be “connected to” each other as claimed in the ’697 Patent because there would be no secure resistance to separation. *Id.* ¶ 71.

While Horizontal needlessly complicates DynaEnergetics’ proposed construction by attempting to further construe and define the phrases “resists separation” and “not merely by physical contact,” a POSITA would easily understand from the context and plain language of the ’697 Patent how a connection would resist separation not just from physical contact.

Demonstrating this required resistance to separation, the term “connected to” is used in claim 1 to describe the relationship between the tandem seal adapter (discussed above) and a “first outer gun carrier.” ’697 Patent at 11:24-29. Claim 1 also requires the tandem seal adapter to be “configured to provide a seal between the detonator and an environment on the second end of the tandem seal adapter.” *Id.* at 11:44-47. A POSITA would understand that the claimed tandem seal adapter is “connected to” the first outer gun carrier in a manner that is sufficiently secure as to provide a seal between an interior of the first outer gun carrier (*i.e.*, as recited by claim 1, “the first detonator [is] positioned within the first outer gun carrier”) and the second end of the tandem seal adapter.

However, a POSITA would also understand that a firm and secure connection between the tandem seal adapter and the outer gun carrier could be achieved by multiple different methods (e.g., with the use of threading, o-ring seals, etc.). *See* Rodgers Decl. ¶ 72. For example, a POSITA would clearly understand that a threaded connection between two components would resist separation through the use of interlocking threads, and therefore would be appropriately “connected to” each other. *Id.* Accordingly, in the context of the ’697 Patent, a POSITA would understand the term “connected to” to mean “joined or coupled in a manner that resists separation and not merely by physical contact.”

### C. “first end” / “second end” (asserted claim 1 and 9)

<b>DynaEnergetics’ Construction</b>	<b>Horizontal’s Construction</b>
No construction needed; plain and ordinary meaning.	“first furthest or most extreme part, point, or edge lengthwise” / “second furthest or most extreme part, point, or edge lengthwise”

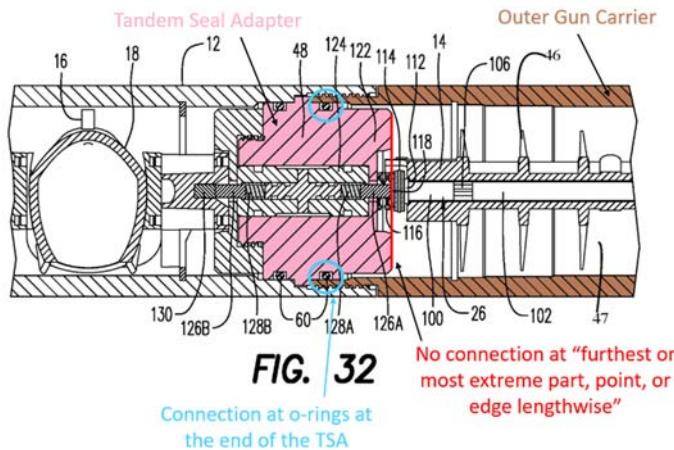
In the ’697 Patent, the meaning of “end”<sup>3</sup> is clear on its face, and the dispositive intrinsic record supports the reasonable, plain and ordinary reading of the term “end” to refer to a region or

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<sup>3</sup> For simplicity, DynaEnergetics omits the words “first” and “second” and discusses the claim term “end” with the portion of Horizontal’s proposed construction “furthest or most extreme part, point, or edge lengthwise”

portion of a component that is toward one lengthwise edge, and includes such an edge, but that is not limited to such an edge. *See Rodgers Decl.* ¶¶ 76-77. There is simply no ambiguity in “end” that warrants departure from its ordinary and customary meaning; the patentees did not act as a lexicographer to set forth any special definition of “end,” nor did they engage in any disavowal specifically regarding the term “end.” Thus, the ordinary and customary meaning of “end” controls, and no further construction is needed. *See Phillips*, 415 F.3d at 1314.

In contrast, Horizontal’s proposed construction for “end” is not only unnecessary but nonsensical. The ’697 Patent claims require that the first outer gun carrier be “connected to the *first end* of the tandem seal adapter.” ’697 Patent at 11:28-29 (emphasis added). For a gun carrier to be connected to an end of the tandem seal adapter, a POSITA would understand that the “end” must encompass more than the “furthest edge lengthwise.” *See Rodgers Decl.* ¶¶ 78-79. An outer gun carrier could not be connected to a “furthest edge”—essentially a point or a 2-D plane at the terminal edge—of the tandem seal adapter. This is illustrated in the preferred embodiment disclosed in, e.g., FIG. 32, where the connection between the tandem seal adapter and the outer gun carrier does not take place on the first “furthest edge lengthwise” on the right—it takes place on the first end where the seal connects the tandem seal adapter to the outer gun carrier.



’697 Patent at FIG. 32 (annotated). Accordingly, a POSITA would readily understand that the

“end” of the tandem seal adapter would encompass the full region in which the connection takes place—up to and including the furthest edge—and is not limited to *only* the “furthest edge lengthwise.” *See* Rodgers Decl. ¶ 80.

Horizontal’s proposed construction excludes this preferred embodiment from the scope of the claimed invention. *See SynQor, Inc. v. Artesyn Techs., Inc.*, 709 F.3d 1365, 1378-79 (Fed. Cir. 2013) (“A claim construction that excludes the preferred embodiment is rarely, if ever, correct and would require highly persuasive evidentiary support.”). Undeterred by this incompatibility, Horizontal seeks this formal construction of the term “end” in order to narrow the overall scope of the claimed invention to suit its litigation strategy. In doing so, Horizontal attempts to rely on the limitation in claim 1 referring to the pin connector ends that “extends **beyond the [first]/[second] end** of the pressure bulkhead” that was amended during the prosecution history. ’697 Patent at 11:38-42. Horizontal fallaciously argues that because the claim language was amended to claim the pin connector ends as extending beyond the ends of the pressure bulkhead in view of a component in the Schacherer reference showing “flush” connectors that the “end” **must only** refer to the furthest edge lengthwise of the pressure bulkhead. However, as Horizontal shows in their excerpt of the amendment but fails to note in their argument, the amendment actually introduced that the claimed pin connector assembly extends through the pressure bulkhead “from a first pin connector end to a second pin connector end.” Dkt. 31-14 at 2, 8. In other words, the amendment distinguished Schacherer which discloses only one arguable “pin connector end,” and did not involve whether any pin connector end extended beyond the furthest edge lengthwise.

The patentee did not provide a new definition of “end” in any statements in the prosecution history, nor did the patentee provide any “clear and unmistakable” disavowal of claim scope with respect to this term. *See Cordis Corp. v. Medtronic Ave, Inc.*, 511 F.3d 1157, 1177 (Fed. Cir. 2008).

In fact, Horizontal's analysis in this respect is not based on the prosecution history at all, but its own annotated figure from Schacherer and arguments regarding what Schacherer teaches. This amendment identified by Horizontal is actually consistent with the plain and ordinary meaning of "end" that would include (but is not limited to) the furthest edge lengthwise.

Thus, despite Horizontal's best efforts to contort the prosecution history, there is no evidence in the intrinsic record that actually supports Horizontal's limitation of the word "end" to **only** the "furthest or most extreme part, point, or edge lengthwise" as Horizontal suggests—much less provide the "highly persuasive evidentiary support" needed for a claim construction that excludes a preferred embodiment. *SynQor*, 709 F.3d at 1379; *see also* Rodgers Decl. ¶¶ 77-80.

Finally, the addition of the adjectives "furthest" and "most extreme," immediately after the terms "first" and "second" adds needless confusion, because referring to the first and second furthest parts could refer to elements on the same end of the tandem seal adapter. Rodgers Decl. ¶ 77. For example, the "first furthest" point could be closest to (or at) the edge and the "second furthest" point could be just slightly less far than the "first furthest" point. *Id.* Using the terms "first end" and "second end" clearly refers to opposing ends or regions of the tandem seal adapter. Accordingly, no construction is needed for this term.

#### **D. "pin connector assembly" (asserted claim 1)**

<b>DynaEnergetics' Construction</b>	<b>Horizontal's Construction</b>
No construction needed; plain and ordinary meaning.	"a plurality of parts that are fitted together to form a component with pins for electrically connecting two guns or tools."

The meaning of "pin connector assembly" in the context of the oil and gas wellbore perforating equipment industry is clear and requires no construction because it is described in the specification and claims of the '697 Patent, consistently used in the field, and well-understood by a POSITA. *See* Rodgers Decl. ¶¶ 85-86. For example, claim 1 recites that the pin connector

assembly “extend[s] through the pressure bulkhead from a first pin connector end to a second pin connector end” and is “configured to relay an electrical signal from the first end of the pressure bulkhead to the second end of the pressure bulkhead.” ’697 Patent at 11:33-38; *see also* Rodgers Decl. ¶ 87. The ’697 Patent teaches, in one exemplary embodiment (FIG. 32, below (annotated)), that the pin connector assembly includes, among other things, coil springs and pin connector ends. ’697 Patent at 8:36-42. In another exemplary embodiment, the pin connector assembly may be a single conductive piece including pin connector ends, without springs, as shown in FIG. 19 below (annotated). *See* Rodgers Decl. ¶ 87. In each embodiment, the pin connector assembly including pin connector ends is dimensioned to electrically contact and extend from a conductor slug in one perforation gun to a bulkhead connector element in an adjacent perforation gun.

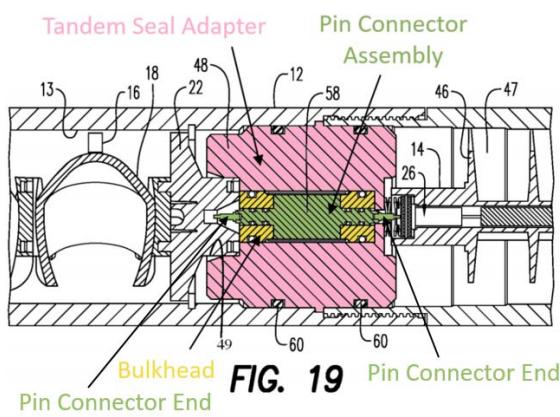


FIG. 19 Pin Connector End

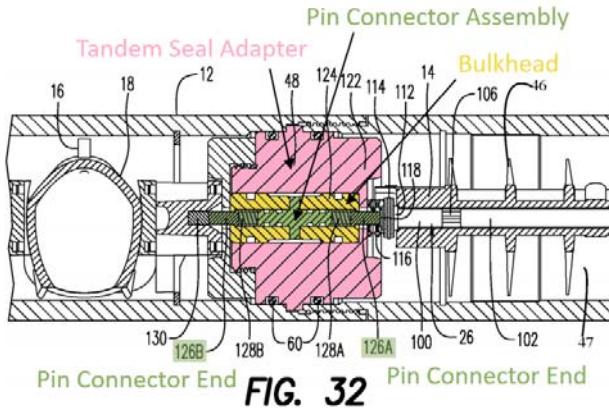


FIG. 32 Pin Connector End

Horizontal’s proposed construction, on the other hand, completely ignores the intrinsic record of the ’697 Patent (and well-established claim construction principles) by importing only one preferred embodiment into the construction while excluding another preferred embodiment.

Horizontal defines the term “pin connector assembly” as a “plurality of parts that are fitted together to form a component with pins for electrically connecting two guns or tools,” in order to narrow the claim scope of a “pin connector assembly” to require multiple separate components. However, Horizontal’s construction excludes the preferred embodiment disclosed in FIG. 19,

which shows an assembly comprising a single, solid pin connector having a first pin connector end and a second pin connector end that extends through the bulkhead. This is again contrary to the established claim construction principle that “a claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct.” *Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318, 1326 (Fed. Cir. 2013) (citations omitted). A pin connector assembly comprising a single solid pin connector having the pin connector ends extending through the bulkhead is very clearly disclosed in FIG. 19 as a preferred embodiment of the ’697 Patent, and thus the correct interpretation of “pin connector assembly” should not exclude that embodiment. *See On-Line Tech. v. Bodenseewerk Perkin-Elmer*, 386 F.3d 1133, 1138 (Fed. Cir. 2004). Thus, while “plurality of parts that are fitted together to form a component with pins for electrically connecting two guns or tools,” may be an example of a “pin connector assembly,” the embodiment shown in FIG. 19 demonstrates the term is not limited as such. *See SynQor*, 709 F.3d at 1378-79; *see also* Rodgers Decl. ¶¶ 86-87. Though Horizontal also pointed to two examples where the word “assembly”<sup>4</sup> was used in the specification to support their construction, this does not constitute “highly persuasive evidentiary support” needed for a claim construction that excludes a preferred embodiment. *SynQor*, 709 F.3d at 1379.

Furthermore, Horizontal’s proposed construction includes additional language that is either entirely redundant or unduly limiting, where the construction requires the “plurality of parts” to be “fitted together” in order “to form a component with pins” that is “electrically connecting” either “two guns or tools.” These additional limitations and redundant terms in Horizontal’s proposed construction are unnecessarily confusing, and Horizontal has provided no basis for writing this language into the construction of “pin connector assembly.” *See Motorola, Inc. v. VTech*

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<sup>4</sup> In one example, Horizontal pointed to the word “assembles,” which is a verb and not the same type of “assembly” at issue here.

*Commc'ns, Inc.*, No. 5:07CV171, 2009 WL 2026317, at \*8 (E.D. Tex. July 6, 2009) (“[W]here additional language may be unduly limiting, confusing, or redundant, it is in a court’s power to determine that no construction is necessary.”); Rodgers Decl. ¶ 89.

Accordingly, no construction is needed for the term “pin connector assembly” because a POSITA would have understood the plain and ordinary meaning of the “pin connector assembly” in the context of the ’697 Patent. *See* Rodgers Decl. ¶¶ 85.

**E. “first pin connector end” / “second pin connector end” (asserted claims 1, 2, and 9)**

DynaEnergetics’ Construction	Horizontal’s Construction
No construction needed; plain and ordinary meaning.	“first furthest or most extreme part, point, or edge lengthwise of the pin connector assembly” / “second furthest or most extreme part, point, or edge lengthwise of the pin connector assembly”

Horizontal’s proposed construction for “pin connector end”<sup>5</sup> to mean “furthest or most extreme part, point, or edge lengthwise of the pin connector assembly” simply rearranges the order of the words and injects needless wordiness and duplication into the claims. Though Horizontal argues that this proposed claim construction is meant to “clarif[y]” (Dkt. 31 at 11), Horizontal did not actually explain how or why “furthest or most extreme part, point, or edge lengthwise of the pin connector assembly” is any clearer than “pin connector end.” While Horizontal cites to a prosecution history amendment adding the claim limitation “the first pin connector end extends beyond the first end of the pressure bulkhead and the second pin connector end extends beyond the second end of the pressure bulkhead” (*see id.*), this amendment actually conflicts with their proposed construction. The fact that the pin connector end must ***extend beyond*** the end of the pressure bulkhead means that the pin connector end must be more than just the “***furthest or most***

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<sup>5</sup> For simplicity, DynaEnergetics omits the words “first” and “second” and discusses the claim term “pin connector end” with the portion of Horizontal’s proposed construction, “end of the pin connector assembly.”

*extreme* part, point, or edge lengthwise of the pin connector assembly” to be able to *extend* past the pressure bulkhead.

Claim construction “is not an obligatory exercise in redundancy.” *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). A POSITA would readily understand the meaning of “first pin connector end” and “second pin connector end” as used in the ’697 Patent, and therefore no construction is necessary for this term. *See* Rodgers Decl. ¶¶ 93-95.

#### F. “in electrical communication with” (asserted claims 1 and 10)

DynaEnergetics’ Construction	Horizontal’s Construction
No construction needed; plain and ordinary meaning.	“receives the electrical signal directly from”

The ’697 Patent uses the term “in electrical communication with” in claim 1 (where the relevant portions of the claim states: “...the first detonator is *in electrical communication with* the pin connector assembly...”) (emphasis added) and claim 10 (where the relevant portions of the claim states: “...the bulkhead connector element is *in electrical communication with* a second detonator...”) (emphasis added). A POSITA reading this claim language would understand that the plain and ordinary meaning of components that are “in electrical communication with” each other simply means that there is an ability for an electrical signal to be transferred between components. *See* Rodgers Decl. ¶¶ 125-28. In contrast, Horizontal’s proposed construction for “in electrical communication with” again unduly narrows the claims in a way that is not supported by the ’697 Patent. Neither the claims nor specification of the ’697 Patent limits the “electrical communication” to “receives the electrical signal directly from.”

Horizontal again misconstrues the prosecution history in an attempt to find support for its incorrect construction. The amendment changing a detonator “configured *to receive* the electrical signal from the pressure bulkhead,” to a detonator “*in electrical communication* with the pin

connector assembly” actually supports that the “in electrical communication with” was intended to cover a broader action than receiving the electrical signal, from the claimed pin connector assembly. Ex. F, Feb. 12, 2020 Reply to Office Action at 9-10 (emphasis added). As Horizontal pointed out, claim 10 (a dependent claim of claim 1) was also amended from “a first contact pin that is ***in electrical contact with*** a signal in connector element of the detonator” to “bulkhead connector element is ***in electrical communication with*** a second detonator positioned within the second outer gun carrier.” Ex. G, June 26, 2020 Notice of Allowability at 4-5 (on the Notice of Allowability, the current version of claim 10 was listed as claim 9) (emphasis added). This amendment is also consistent with “electrical communication” covering more than merely receiving information by electrical signal. Horizontal ignores this evidence and instead points to claim 14, where the term “electrically connected to” and—with absolutely no support—simply makes a self-serving assumption that “in electrical communication with” must be narrower, despite the evidence in the prosecution history showing that it was meant to be a broader term.

The proposed construction is also unduly narrow because it indicates that there must be a direction to the electrical communication, wherein the second component in electrical communication apparently must send the “electrical signal” that the first component directly “receives.” There is no support for this directional limitation in the claims or specification of the ’697 Patent. Rodgers Decl. ¶ 130. Furthermore, a POSITA would understand that the proposed directional requirement for the term “in electrical communication with” does not make sense in context of the ’697 Patent claims. For example, Horizontal’s construction would not make sense for claim 10 because it would mean that the bulkhead connector element is the component that “receives the electrical signal directly from” a second detonator—which is inconsistent with claim 1 from which claim 10 depends, where the first detonator would be the component that “receives

the electrical signal.” Rodgers Decl. ¶¶ 129-30. However, a POSITA would understand it would be illogical for the second detonator to send an electrical signal for the bulkhead connector to receive. *Id.* The ’697 Patent explicitly specifies when a direction is required by the claim language. For example, in claim 1, the claim includes a description of a pin connector assembly that is “configured to relay an electrical signal from the first end of the pressure bulkhead to the second end of the pressure bulkhead . . . .” Accordingly, Horizontal’s construction is not supported with the claim language of the ’697 Patent.

**G. “it is not possible to interrupt the electrical signal from the first pin connector end to the second pin connector end” (asserted claim 2)**

DynaEnergetics’ Construction	Horizontal’s Construction
No construction needed; plain and ordinary meaning.	Indefinite.

Horizontal does not offer a proposed construction for this phrase and instead alleges that it is indefinite. Claims viewed in light of the specification and prosecution history, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). This standard “mandates clarity, while recognizing that absolute precision is unattainable.” *Id.* Indefiniteness must be proven by clear and convincing evidence. *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). Horizontal cannot meet this burden.

Functional terms, such as the above-claimed phrase, are not inherently indefinite. *Nevro Corp. v. Bos. Sci. Corp.*, 955 F.3d 35, 39 (Fed. Cir. 2020). In fact, the Federal Circuit has held that “functional language can promote[] definiteness because it helps bound the scope of the claims by specifying the operations that the [claimed invention] must undertake.” *Id.* (quotations and citations omitted). When a claim limitation is defined in “purely functional terms,” a determination of whether the limitation is sufficiently definite is “highly dependent on context (e.g., the

disclosure in the specification and the knowledge of a person of ordinary skill in the relevant art area).” *Id.* The materials, assembly, and electrical concepts disclosed in the ’697 Patent, in addition to the common knowledge in the industry, provides “a general guideline and examples sufficient to enable a person of ordinary skill in the art to determine the scope of the claims.” *Id.*; *see also* Rodgers Decl. ¶¶ 99-105, 108.

An important and novel aspect of the claimed invention includes the ’697 Patent’s short, stiff pin connector assembly that is superior to the prior art teachings of wires that are vulnerable to cutting, crimping, or other damage. In addition, the ’697 Patent also discloses that the pin connector assembly is protected by a pressure bulkhead and a portless tandem seal adapter that does not include internal wired connections that may be prone to damage, disconnection, or wiring mistakes. *See* Rodgers Decl. ¶¶ 100-05; *see also* ’697 Patent at 11:18-47. Thus, the portless tandem seal adapter prohibits access to the pressure bulkhead and pin connector assembly that are “sealingly received” within the tandem seal adapter. *See* Rodgers Decl. ¶¶ 100-05; *see also* ’697 Patent at 6:13-15, 6:28-38. Accordingly, with the context of the relevant industry knowledge, a POSITA would recognize that the improvements taught by the ’697 Patent provide reasonable certainty about the claimed inventions’ scope—which is that it would not be possible to interrupt the electrical signal from the first pin connector end to the second pin connector end in the manner one could with wired connections, due to the portless tandem seal adapter that does not allow access to the pressure bulkhead and pin connector assembly. *See* Rodgers Decl. ¶¶ 108.

Furthermore, the prosecution history supports that a POSITA would readily understand the scope of this claim term. In an office action, the examiner alleged that the pin connector assembly disclosed in the Schacherer reference met the claim limitation “wherein it is not possible to interrupt the electrical signal . . . from the first end [] to the second end [] of the pressure bulkhead.”

Ex. E, Nov. 12, 2019 Office Action, at 4. While the patentee eventually overcame this objection, the examiner was clearly able to recognize the definite scope of the functional limitation, “it is not possible to interrupt the electrical signal,” evidencing that a POSITA would understand the teaching in the ’697 Patent as providing the proper basis and scope for the limitation “it is not possible to interrupt the electrical signal.” Accordingly, the limitation is not indefinite. Rodgers Decl. ¶ 98.

#### **H. “bulkhead connector element” (asserted claim 9 and 10)**

<b>DynaEnergetics’ Construction</b>	<b>Horizontal’s Construction</b>
No construction needed; plain and ordinary meaning.	Subject to 35 U.S.C. § 112(f) <u>Function</u> : establish an electrical connection with the second pin connector end of the pressure bulkhead <u>Structure</u> : the exposed surface (118) of the detonator head shown in FIGS. 27, 28, and 30, and equivalents thereof

The presumption against means-plus-function claiming applies here because “means” is used nowhere in the claims. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015). To determine whether a claim should be construed as a means-plus-function term, “[t]he standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* Here, a POSITA would have a firm understanding of the materials, assembly, and electrical concepts required to carry out this aspect of the claimed invention. Rodgers Decl. ¶ 113.

However, even if means-plus-function treatment is applied, Horizontal’s argument that the “bulkhead connector element” should be limited to “the exposed surface (118) of the detonator head shown in FIGS. 27, 28, and 30, and equivalents thereof” still fails. A POSITA would readily understand that the term “bulkhead connector element” is associated with the specific structure described and illustrated in the ’697 Patent as “bulkhead connector element 118,” ***in addition to***

the structure illustrated in, e.g., FIGS. 32 and 33, at the end of the pin connector assembly that connects to the second pin connector end. Rodgers Decl. ¶ 114. The '697 Patent specifically labels and illustrates the structure of the bulkhead connector element in FIGS. 27, 28, 30, 32, 33, 35A and 35B. *Id.* A POSITA would recognize that claim 12 of the '697 Patent identifies and claims the bulkhead connector element as "a portion of a detonator head portion of the second detonator," which indicates to a POSITA an example of the structure of the bulkhead connector element, but would also recognize that the '697 Patent describes the bulkhead connector element as an electrical connector of the top connector that is in electrical contact with the pin connector assembly. *Id.*

Furthermore, as the Federal Circuit has stressed, "the presence of a dependent claim that adds a particular limitation" indicates "that the limitation in question is not present in the independent claim." *Phillips*, 415 F.3d at 1315. Thus, because the limitation that the bulkhead connector element "is a portion of a detonator head portion" was added in dependent claim 12, that limitation should not be imported into claim 10 from which it depends. *See Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1123 (Fed. Cir. 2004) ("[T]he doctrine of claim differentiation normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend."). Accordingly, Horizontal's proposed construction should be rejected.

### **III. CONCLUSION**

For the reasons set forth herein, DynaEnergetics respectfully requests that the Court reject Horizontal's proposed constructions and adopt DynaEnergetics' proposed constructions.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on November 8, 2021, I electronically filed the foregoing document with the Clerk of the Court using the CM/ECF system, which will send notification of such filing *via* electronic mail to all counsel of record.

*/s/ Eric H. Findlay*

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